

**FREE TO ATTEND**

# Associated Meetings

## Coastal Observatories: Innovation meets industry



Tuesday 4 April

14.00 – 17.00

Room G1, 6th Floor NOC

**FREE TO ATTEND**

Open to all, this will be an opportunity for end-users of marine observation data to provide input to the managers of coastal observatories on the relevance and impact of different data sets to business activities. Marine environmental data is being generated

by a large number of existing coastal observatories. SMEs can generate commercial products and services based on this data. This workshop is designed to present what data is currently available and learn from the business community and end users which data sets have most relevance and impact in the different business sectors of shipping, ports, metocean forecasting, defence, submarine cables, marine environmental monitoring, deep sea mining, aquaculture, oil and gas exploration and offshore renewable energy operations.

For further information please visit:

➔ [www.jerico-ri.eu](http://www.jerico-ri.eu)

## The Hydrographic Society AGM



Wednesday 5 April 2017

12.30 – 14.00

Room G2, 6th Floor NOC

**FREE TO ATTEND**

The 13th AGM of The Hydrographic Society UK. All fully paid-up Individual and Corporate Members are invited to attend. Please come along and have your say on the future of the Society.

For further information please visit:

➔ [www.ths.org.uk](http://www.ths.org.uk)

## Top US Blue Tech companies to watch in 2017...



Wednesday 5 April

14.30 – 17.30

Room G1, 6th Floor NOC

**FREE TO ATTEND**

The Maritime Alliance (TMA) has announced an unmissable series of presentations at Ocean Business 2017. Each session will be presented by one of the 17 Top US BlueTech Companies to watch in 2017 (as identified by TMA) with the aim of creating international collaboration. These companies were selected to participate in this year's cohort of the US Maritime Technology Export Initiative, a collaboration between TMA and the International Trade Administration (ITA), part of the US Department of Commerce.

These top small US BlueTech companies have been selected to represent the US Maritime Technology Export Initiative for their innovative technologies and business potential. Each will be attending Ocean Business to build international collaboration and trade by creating

partnerships with buyers and distributors in world markets. They have diverse technology backgrounds, including: aerial drones, ballast water, remotely operated vehicles (ROVs), unmanned surface and underwater vehicles, vertical profiles and more.

The following BlueTech companies among others will be hosting sessions:

- **Aquabotix**, which specialises in smart technology and viewing systems for ROVs
- **Blue Robotics**, which provides components for underwater robotic systems
- **Assure Controls**, with products and services to support ballast water compliance in shipping
- **Del Mar Oceanographic**, which produces the Wirewalker, a vertically profiling system powered by waves
- **Marine Advanced Research**, offering innovative unmanned surface vehicle technology to improve operational efficiency
- **Plank Aerosystems**, a developer of fully autonomous aerial drones for the commercial maritime industry.

For more info please contact

➔ [gmruphy@themaritimealliance.org](mailto:gmruphy@themaritimealliance.org)

## Building capacity in Ocean Science Education



Wednesday 5 April 2017

15.00 – 17.00

Room G2, 6th Floor NOC

**FREE TO ATTEND**

The 'blue' economy in the EU represents 5.4 million jobs and generates a gross added value of €500 billion a year. Blue growth is expected to further enhance these opportunities in sectors such as aquaculture, blue biotechnology and offshore renewables to name a view.

Blue growth has to take place within the context of achieving SDG-14, conservation of oceans and seas. Are we producing the right numbers of individuals with the right levels of skills to enable blue growth to occur in a sustainable fashion? Results from the workshop will be assimilated into a wider IMarEST report on skills in the blue economy.

For further information please contact:

✉ [technical@imarest.org](mailto:technical@imarest.org)

## NOC Workshops and Seminars



Seminar Room, 4th Floor NOC

### FREE TO ATTEND

The National Oceanography Centre (NOC) are showcasing how its cutting edge scientific research, technology development and world-class facilities can be used to underpin the global ocean industry by helping to solve the many challenges faced as our economies become increasingly reliant on our oceans.



**National Oceanography Centre**  
NATURAL ENVIRONMENT RESEARCH COUNCIL

Throughout the three days of Ocean Business, the NOC will be hosting workshops and seminars highlighting how the work of the NOC can help with such issues as the decommissioning of the 475 oil and gas installations in UK seas, enable developing nations to conduct scientific research in their oceans and coastlines in an affordable way to support their economies and conduct surveys of deep ocean installation sites prior to construction.

**ocean**  
**BUSINESS 17**

## Tuesday 4 April

10:30 to 11:30

### Fix03 innovation meets industry

One to one meetings with innovative companies operating in ocean observation to identify barriers to commercialisation. Organised by SLR Environmental Consulting (Ireland), a partner in the Fix03 Horizon 2020 project. The Fixed point Open Ocean Observatory network (Fix03) seeks to integrate European open ocean fixed point observatories and to improve access to these key installations for the broader community.

12:00 to 13:00

### South Coast Marine Cluster

#### - Access to world-class institutes and sector-leading, innovative companies

The South Coast Marine Cluster builds on a rich maritime heritage, hundreds of kilometres of coastline, world-renowned research institutions and a large and growing network of sector-leading, innovative marine companies. You can work with the cluster to underpin and support your business activities

13:30 to 14:30

### NOC sensor and instrumentation development and future roadmap

Prof Matt Mowlem, Head of NOC's Ocean Technology and Engineering Group will be presenting NOC's Sensor & Instrumentation Development and future roadmap. The group develop sensor and instruments for environmental monitoring and engage industry in a variety of ways, including licensing technology and collaborative R&D projects. 2017 will be another key year, seeing NOC developed technologies made available commercially through partners and deployed on marine autonomous systems, landers, moorings and platforms for science. This presentation will highlight the group's latest work and give a view on future direction.

15:00 to 16:00

### Unlocking the power of X-Band as a coastal development and management tool

Shore-based marine radar systems have recently proved to be an excellent tool for gathering a wealth of hydrographic, hydrodynamic and environmental data for a variety of scientific and industrial applications. Following significant research and development effort at The NOC with other partner institutions, a single marine radar sensor can gather information on; subtidal bathymetry down to 30-50m, near-surface currents, intertidal topography, wave spectra and wave statistics. Along with this crucial hydrographic data, the radar can provide information on bird and marine mammal activity in the area while continuing to act as a vessel traffic observation and management tool. This session will provide an overview of the capabilities and services provided by The NOC and Marlan Maritime Technologies.

## Wednesday 5 April

10:30 to 11:30

### Lithium sulfur pressure tolerant batteries for marine autonomous systems

As part of an innovate UK project, the NOC is working with Steatite, Oxis and MSubs to develop a pressure tolerant battery pack for Marine Autonomous Systems and other deep sea applications, using novel lithium sulfur technology. You will be able to hear about the latest developments on the project and discuss your potential user needs from this innovative new technology that offers extended battery life and improved safety over current lithium batteries on the market.

12:00 to 13:00

### Decommissioning of oil and gas installations

There are 475 oil & gas installations in UK seas that will have to be decommissioned. By 2018 over 50 of these will be approaching or entering decommissioning. The OSPAR Convention prohibits the dumping, and leaving wholly or partly in place, of most offshore installations

(OSPAR Decision 98/3), although some large structures are exempt (derogation cases). Given the large number of impending decommissioning cases, there is a clear need for a highly efficient survey and monitoring procedure that limits potential costs but also fits the regulators' needs. Recent advances in marine autonomy offer the prospect of substantial efficiency gains over current practise, but now require the development of effective and efficient approaches for decommissioning monitoring, which will be provided by this project.

13:30 to 14:30

### EMS0dev technology workshop

The technology workshop will briefly present the work carried out by EMS0dev with regard to the design, integration and trial deployments of the project monitoring equipment designed for deployment on a variety of subsea installations such as in-situ observatories and moorings. Once the EMS0dev overview has been made the floor will be opened to attendees with the aim of collecting views from the ocean observing community and wider stakeholder/end-user communities. Further background information on EMS0dev and the EGIM (EMSO Generic Instrument Module) is available on the website: [www.emsodev.eu](http://www.emsodev.eu)

15:00 to 16:00

### Partnership for Observation of the Global Ocean (POGO)

Presented by Professor Ed Hill, Executive Director of the National Oceanography Centre and recent member of the POGO Executive Committee. For more than a decade, the Partnership for Observation of the Global Oceans, POGO, has served as a forum for leaders of major oceanographic institutions around the world to promote global oceanography, particularly the implementation of international and integrated global ocean observing systems. POGO is an international network of collaborators who foster partnerships that advance efficiency and effectiveness in studying and monitoring the world's oceans on a global scale. Through its efforts, POGO has promoted observations underpinning ocean and climate science, interpreted scientific results for decision makers, provided training and technology transfer to emerging economies, and built awareness of the many challenges still ahead.

## Thursday 6 April

10:30 to 11:30

### Marine Data – translating research models into applications

The NOC produces modeled data for ocean research, at this session they'll be discussing how you can utilise this data for industry applications.

12:00 to 13:00

### Arctic Shipping Lane

The rapid Arctic summer sea ice reduction in the last decade has led to debates in the maritime industries on the possibility of an increase in cargo transportation in the region. Average sailing times on the North Sea Route along the Siberian Coast have fallen from 20 days in the 1990s to 11 days in 2012– 2013, attributed to easing sea ice conditions along the Siberian coast. However, the economic risk of exploiting the Arctic shipping routes is substantial. Here a detailed high-resolution projection of ocean and sea ice to the end of the 21st century forced with the RCP8.5 IPCC emission scenario is used to examine navigability of the Arctic sea routes. In summer, opening of large areas of the Arctic Ocean previously covered by pack ice to the wind and surface waves leads to Arctic pack ice cover evolving into the Marginal Ice Zone. The emerging state of the Arctic Ocean features more fragmented thinner sea ice, stronger winds, ocean currents and waves. By the mid 21st century, summer season sailing times along the route via the North Pole are estimated to be 13–17 days, which could make this route as fast as the North Sea Route. The NOC will present analysis of the Arctic navigational hazards from sea ice, waves, icebergs and bergy bits (growlers) and discuss the requirements the hazards monitoring system for the navigation in the Arctic. Lastly, the assessment of the potential oil spills impacts on the Arctic environment from the ship accidents along the shipping lanes is given. The presentation benefitted from the results of the two projects: the EU FP7 Project *Ships and Waves Reaching Polar Regions (SWARP)* and the NERC *Impact Project Safer Operations at Sea - Supported by Operational Simulations (SOS-SOS)*.

## NOC Facilities and Services Tours

**FREE TO ATTEND**

To sign up for an individual or group tour please visit the NOC stand:

➔ Stand W11

**As well as these workshop and seminar sessions the NOC will be opening its doors for tours of the key testing facilities that are available for commercial hire, so that visitors can speak with the teams that run these facilities and discuss the potential for their use.**

### NOC's Engineering and Testing Services Tours

The NOC can offer a complete ocean engineering service to industry to help solve the problems that cannot typically be solved through traditional industry partners / suppliers. With their unique expertise in marine engineering innovation the NOC can help industry solve those challenges that will enable them to operate in more extreme environments, more robustly and for longer. They can offer, consultancy, design, manufacture and testing of complete systems or component parts. They have extensive testing equipment including pressure chambers and a systems reliability lab.

Tuesday 4	14.00 – 15.00
Wednesday 5	15.00 – 16.00

### NOC Calibration Facility Tours

The National Oceanography Centre has recently recommissioned its state-of-the-art sensor calibration facility and is making it available for use by external customers. The facility has the ability to calibrate an extensive range of commercially available sensors and instruments.

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Wednesday 5	15.00 – 16.00